

AMENDMENTS TO THE SPECIFICATION:

Please amend the indicated paragraphs of the specification in accordance with the amendments indicated below.

Page 1: Please amend the Title as indicated below:

~~MACHINE FOR PROCESSING POURABLE/PASTY MASSES BY MEANS OF
A SECTION THAT CAN VIBRATE IN THE CONVEYING DIRECTION~~

MACHINE WITH VIBRATABLE SECTION

Page 2: Between the Title and the 1st full paragraph, insert the following heading:

BACKGROUND OF THE INVENTION:

Between the 3rd and 4th full paragraphs, insert the following paragraphs and heading as follows:

EP 0 612 603 describes a system and a method for facilitating the flow of an elastomeric materials through a nozzle. For this purpose, a nozzle of an extruder and, accordingly, a passage formed in the nozzle, are vibrated by means of ultrasound, as a result of which the friction between the material and the passage is decreased. The vibration is produced by means of an electric circuit, which

applies an electric vibrational signal to a piezoelectric converter. This signal can then be transformed into mechanical vibrations, which are transferred to the passage.

SU 856 833 A1 and SU 1 445 676 A1 disclose a similar system. Here also, one or more vibration emitters are provided, which are mounted at the inner wall of an extruder housing also in the discharge region of the extruder.

GB 1,171,735 A1 describes a spin packing, which is disposed upstream from a nozzle plate, with which polymers are spun into filaments. For this purpose, the polymer melt must be pumped through the holes of the nozzle plate. Balls are contained in the spin packing and form a ball bed, which ensures equalization of the melt flow over the whole of the nozzle plate, so that the residence time of the polymer melt in the whole of the spinning head is as uniform as possible over the surface of the nozzle plate and, above all, so that dead regions between the nozzle holes, which are relatively far apart in comparison to their diameter, are avoided.

For all of these known solutions of the state of the art, vibrations for affecting the rheological properties of the fluid are induced only over the surface of a vibrating nozzle or of a different vibrating region in the interior of a housing in a viscous or viscoelastic fluid (suspension, emulsion, melt of a thermoplastic material, elastomer).

GB 1,171,735 A admittedly mentions two balls in a spin packing. However, these balls form a "ball bed" in the spin packing, which, instead of vibrating, only brings about an equalization of the residence time of the fluid flowing through the ball bed. Every effort is made not to interfere in any way and, especially, and not by vibrations, with the very unstable spinning process.

SUMMARY OF THE INVENTION:

Page 2: Between the 1st and 2nd full paragraph, insert the following paragraphs as follows:

In another advantageous embodiment of the machine according to the invention, the at least one outlet section in the channel of the machine is a volumetric section of the channel filled with vibratable collision elements. It forms a collision element package in which the collision elements are more or less densely packed. The oscillation source coupled with the collision element package impacts the collision elements in the package via the wall of the package, and imparts vibration to the collision elements. The material transported between the collision elements in the outlet section is essentially machined in two ways by the movement of the collision elements. On the one hand, impacts between the collision elements trigger a dispersion or deagglomeration of emulsified or suspended particles of the material, which at that time are between the collision elements impacting each

other. On the other hand, (non-impacting) relative movements of adjacent collision elements produce a shearing gradient, and hence a shearing and/or expansion of the material, which reduced its viscosity.

The collision elements best form as dense a package as possible, with hollow spaces between contacting collision elements, wherein the collision elements in particular vary in size and/or shape. In this embodiment, numerous collision elements are in the package on the one hand, which yields a high number of impacts. On the other hand, the average distances between adjacent collision elements are small, so that a high shearing gradient and expansion gradient is present at a specific impact strength.

The collision elements can have at least one of the following shapes, as needed: spherical, polyhedral, bar-shaped, in particular cylindrical or prismatic. In the case of a sphere, very high, point-acting impact strengths are achieved, which can also break highly stable agglomerates, but have a relatively low probability of hitting an agglomerate. The polyhedral shape enables relatively weak, superficial or angular impact strengths, but the probability of hitting an agglomerate is much higher than for spheres. In addition, the expected shearing effect is higher than for spheres. The rod-shaped collision elements allow the introduction of vibrations preferentially directed toward the collision element package. For example, the rods can be arranged parallel to each other in the

package, and impacts can be initiated in such a way that the rods move primarily to and fro along the direction of the rod. This causes the shearing effect to dominate between the rods relative to the impact action between the rods. The prismatic shape is preferred given a vertical arrangement of the outlet section, also with vertically arranged rods, while the cylindrical shape is preferred given a horizontal arrangement of the outlet section.

At least one part of the collision elements preferably consists of an electrically conductive material, and the source for oscillations is a source for electromagnetic oscillations, wherein the electrically conductive collision elements can be excited by the generated electromagnetic alternating fields to mechanical oscillations and/or movements. This embodiment enables a particularly elegant, non-contact inductive coupling of the oscillation source to the collision elements.

Page 7 and 8: 5th full paragraph bridging these two pages, delete in its entirety:

~~In another advantageous embodiment of the machine according to the invention, the at least one outlet section in the channel of the machine is a volumetric section of the channel filled with vibratable collision elements. It forms a collision element package in which the collision elements are more or less densely packed. The oscillation source coupled with the collision element package impacts~~

~~the collision elements in the package via the wall of the package, and imparts vibration to the collision elements. The material transported between the collision elements in the outlet section is essentially machined in two ways by the movement of the collision elements. On the one hand, impacts between the collision elements trigger a dispersion or deagglomeration of emulsified or suspended particles of the material, which at that time are between the collision elements impacting each other. On the other hand, (non-impacting) relative movements of adjacent collision elements produce a shearing gradient, and hence a shearing and/or expansion of the material, which reduced its viscosity.~~

Page 8: 2nd full paragraph, delete in its entirety:

~~The collision elements best form as dense a package as possible, with hollow spaces between contacting collision elements, wherein the collision elements in particular vary in size and/or shape. In this embodiment, numerous collision elements are in the package on the one hand, which yields a high number of impacts. On the other hand, the average distances between adjacent collision elements are small, so that a high shearing gradient and expansion gradient is present at a specific impact strength.~~

Page 8 and 9: 2nd full paragraph bridging these two pages, delete in its entirety:

~~The collision elements can have at least one of the following shapes, as needed: spherical, polyhedral, bar-shaped, in particular cylindrical or prismatic. In the case of a sphere, very high, point-acting impact strengths are achieved, which can also break highly stable agglomerates, but have a relatively low probability of hitting an agglomerate. The polyhedral shape enables relatively weak, superficial or angular impact strengths, but the probability of hitting an agglomerate is much higher than for spheres. In addition, the expected shearing effect is higher than for spheres. The rod-shaped collision elements allow the introduction of vibrations preferentially directed toward the collision element package. For example, the rods can be arranged parallel to each other in the package, and impacts can be initiated in such a way that the rods move primarily to and fro along the direction of the rod. This causes the shearing effect to dominate between the rods relative to the impact action between the rods. The prismatic shape is preferred given a vertical arrangement of the outlet section, also with vertically arranged rods, while the cylindrical shape is preferred given a horizontal arrangement of the outlet section.~~

Page 9: 1st full paragraph, delete in its entirety:

~~At least one part of the collision elements preferably consists of an electrically conductive material, and the source for oscillations is a source for electromagnetic oscillations, wherein the electrically conductive collision elements can be excited by the generated electromagnetic alternating fields to mechanical oscillations and/or movements. This embodiment enables a particularly elegant, non-contact inductive coupling of the oscillation source to the collision elements.~~

2nd full paragraph, amend as indicated below and add the following heading:

Additional advantages, features and possible applications of the invention will now be presented in the following description of exemplary embodiments of the invention, which are not to be construed as limiting, based upon the drawing drawings. ~~Shown on:~~

BRIEF DESCRIPTION OF THE DRAWINGS:

Page 10: Between the 3rd and 4th full paragraph, insert the following heading:

DESCRIPTION OF THE PREFERRED EMBODIMENTS:

Page 17: amend the “Reference Symbol List” as follows:

REFERENCE SYMBOL LIST

1	Channel
2	Outlet section 2a of outlet
2a, 2b, 2c	Partial outlet areas
4	Resilient means/spring
5	Inner surface of outlet
6, 7, 8, 9	Source for oscillations
G	Casing
T	Tangential component of oscillations
N	Normal component of oscillations
F	Conveying direction of material
M	Material
P, P1, P2, P3	Velocity profile of transported material
10	1 st device for acquiring rheological properties of material
11	1 st signal output
12	2 nd device for acquiring rheological properties of material
13	2 nd signal output
20	Extruder
21	Melt filter/polymer filter
21a	Passage in melt filter
22	Extruder screw
23	Screw thread
24	Screw head
30	Casting machine (e.g., for chocolate or aluminum)
31, 32	Pressure sensor
41	Collision element (rod)
42	Collision element (ball)
43, 44, 45	Lattices
<u>47</u>	<u>Partial region of the passage section</u>
<u>48</u>	<u>Partial region of the passage section</u>